

APPLICANT(S): KRITCHMAN, Eliahu M. et al.
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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application the claims indicated as cancelled. The following list of claims is intended to replace all prior versions or listings of claims in the application:

List of Claims

1-196. Canceled

197. (New) A method for printing a three-dimensional object comprising:

depositing material in layers onto a printing tray to form a three-dimensional object;
and

controlling the temperature of the layers of said object being printed to substantially the glass transition temperature of said material.

198. (New) The method of claim 197, wherein controlling the temperature of said layers comprises controlling the temperature during a printing process.

199. (New) The method of claim 197 comprising depositing more than one material.

200. (New) The method of claim 197 further comprising:

heating said material before depositing.

201. (New) The method of claim 197 comprising:

heating said printing tray to substantially the glass transition temperature of said material.

202. (New) The method of claim 197 comprising:

controlling the temperature of upper layers of said object to be above the glass transition temperature of said material.

203. (New) The method of claim 197 comprising:

controlling the temperature of lower layers of said object to be below the glass phase transition temperature of said material.

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204. (New) The method of claim 197, wherein controlling the temperature of said layers comprises controlling the temperature of said layers by one or more temperature control mechanisms selected from the group consisting of: electromagnetic radiation, exothermic chemical curing, a heating element and a cooling element.

205. (New) The method of claim 204, said cooling element being an air sucking unit.

206. (New) The method of claim 204, said cooling element being an air blowing unit.

207. (New) The method of claim 197, wherein controlling the temperature of said layers comprises operating cooling elements according to reading received from a temperature sensor.

208. (New) The method of claim 197, wherein controlling the temperature of said layers comprises operating heating elements according to reading received from a temperature sensor.

209. (New) A system for printing a three-dimensional object, the system comprising:

- a printing head for depositing material in layers;

- a printing tray upon which the material is deposited; and

- a controller for controlling the temperature of the layers to substantially the glass transition temperature of said material.

210. (New) The system according to claim 209, wherein the controller is to control the temperature of the layers during the printing process.

211. (New) The system according to claim 209, wherein said printing head is to deposit more than one material.

212. (New) The system according to claim 209 further comprising:

- a heating unit to heat the material before it is deposited from the printing head.

213. (New) The system according to claim 209, wherein said printing tray comprises one or more temperature control units.

214. (New) The system according to claim 209, wherein the controller is to control the temperature of upper layers of said object to be above the glass transition temperature of said material.

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215. (New) The system according to claim 209, wherein the controller is to control the temperature of lower layers of said object to be below the glass transition temperature of said material.

216. (New) The system according to claim 209, further comprising:

one or more temperature control mechanisms selected from the group consisting of electromagnetic radiation, exothermic chemical curing, a heating element and a cooling element.

217. (New) The system according to claim 216, wherein said cooling element comprises an air blowing unit.

218. (New) The system according to claim 216, wherein said cooling element comprises an air sucking unit.

219. (New) The system according to claim 216 further comprising:

a temperature sensor and wherein the controller is to operate the cooling and heating elements according to reading received from the sensor.